



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,052	07/31/2006	Kai Dolling	Muller53	7156
39703	7590	03/23/2009		EXAMINER
C. JAMES BUSHMAN 5851 San Felipe SUITE 975 HOUSTON, TX 77057				RUMP, RICHARD M
			ART UNIT	PAPER NUMBER
			1793	
				MAIL DATE
				DELIVERY MODE
				03/23/2009
				PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/565,052	DOLLING ET AL.
	Examiner Richard M. Rump	Art Unit 1793

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-16, 18-19 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08) _____
Paper No(s)/Mail Date 06/05/2006
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Status of Application

Claims 1-16, 18-19 are pending and presented for examination.

Priority

Acknowledgement is made of applicant's request for foreign priority under 35 U.S.C. §119(a)-(d). Certified copies of the priority documents have been **received**.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 5 June 2006 is acknowledged and the references listed thereon have been considered by the examiner on the attached copy of the PTO-1449 form.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2 and 9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a) In claim 2, amino acids fail to meet the general conditions of the positions 2, 3, or 4.
- b) Claim 9 recites "1 to greater than 0.5". The multiple ranges are confusing.

Which reagent is in greater quantity? Also, the 'preferably' range does not limit.

Claim Rejections - 35 USC §103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9, rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 5455019 to Inui (Cited by Applicant in IDS).

Regarding claims 1-4, 7-8, Inui discloses a process of making an aluminum hydroxide involving the hydrolysis of an aluminum alkoxide derivative comprising an amino acid, hydroxyl and carboxyl group (column 4, lines 5-45) at room temperature (column 2, lines 17-20; column 5, lines 3-7 (specifically 40-70 °C (column 6, line 35)). While Inui is silent as to the pH, given the creation of an aluminum hydroxide the pH would have to be basic. Furthermore, Inui states that "the degree of completeness of hydrolysis and properties of the produced aluminum hydroxide such as crystal form depend on the molar ratio of the water to the aluminum alkoxide..." (column 3, lines 36-49), this would lead a skilled artisan to arrive at the conclusion that given sufficient time

and hydrolysis an aluminum trihydroxide of the gibbsite of nordstrandite structure are possible, note that 2 (Al(OH)₃) equates to Al₂O₃·3H₂O.

Regarding claim 5, since the genus of amino acids are taught all species would also be suggested.

Regarding claim 6, the amino acid is added at from 100 to 0.3 wt% (column 6, line 32). Since this range overlaps that instantly claimed, a *prima facie* case of obviousness exists (See MPEP 2144.05).

Regarding claim 9, the alkoxide is added to the solution between 30 and 90% by concentration (column 6, lines 57-58).

Claims 10-16 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inui as applied to claim 1 above, and further in view of US Patent No. 6030599 to Noweck (Cited by Applicant in IDS).

Regarding claims 10-11, Inui is silent to the usage of hydrothermal aging (Noweck simply ages for one hour, the type nor temperature aged at are known). However, in a process of making an aluminum hydroxide, Noweck discloses the usage of hydrothermal aging (Noweck: column 2, lines 59-61). Time is a result effective variable commonly controlled and arrived at through routine experimentation (See *Id.*) The aging temperature is between 85 and 90 °C ('599: column 6, lines 64-65). As such, it would have been obvious to one having an ordinary level of skill in the art at the time of invention to perform the aging process of Noweck as a hydrothermal aging process as presented by '599. A skilled artisan would use hydrothermal aging to enhance crystallinity (column 1, lines 48-50).

Regarding claim 12, the slurry content is less than 30% by weight (column 4, line 57) (See MPEP *Id.*).

Regarding claim 13-14, calcination of the obtained alumina (as gibbsite using the rationale for claim 1) takes place between 700 and 11000 °C in order to cause transitional alumina to form (column 5, lines 55-61).

Regarding claims 15-16 & 18-19, Inui is silent as to any pore volume. However, Noweck discloses a pore volume of 0.85 (Noweck: Table 1, No. 1). A skilled artisan using the aging process of Noweck with the calcination process of Inui could reasonably expect their to be a shrinking of the particle due to the hydrothermal aging. As such, the pore volumes expressed by Noweck could be obtained. The obtained material can be used as a catalyst support (Noweck: Column 3, line 6).

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10564244. Although the conflicting claims are not identical, they are not patentably distinct from each other because while '244 makes boehmite, a longer reaction time in the hydrolysis reaction could result in the formation of a trihydroxide as such the basis of the claim is a very similar process.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

Claims 1-4 6, 8-16 and 18-19 have been rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard M. Rump whose telephone number is (571)270-5848. The examiner can normally be reached Monday through Friday 7:00 AM-4:30 PM (-5 GMT).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached at (571)272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. M. R./
Examiner, Art Unit 1793

/Stuart Hendrickson/
Primary Examiner, Art Unit 1793